

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the instant application:

1. (Currently Amended) A method for debugging software objects within a grid environment comprising the steps of:

identifying a host, wherein said host is a software object operating in a grid of said grid environment;

associating a ghost agent within said grid with said host, wherein said ghost agent is configured to replicate and record at least one action of said host within said grid;

~~replicating actions executed by said host for use by said ghost agent~~;

debugging said host based upon said ~~replicated~~ recorded actions;

moving said host from said grid to another grid within said grid environment; and,

in response to said moving of said host, moving said ghost agent from one said grid within said grid environment to said another grid.

2. (Cancelled)

3. (Original) The method of claim 1, wherein said actions executed by said host are executed within a production environment, said method further comprising the step of preventing said replicated actions from operationally executing in said production environment.

4. (Original) The method of claim 1, wherein said debugging step further comprises the steps of:

receiving a debugging command;
executing said debugging command; and
responsively generating at least one debugging message.

5. (Original) The method of claim 4, further comprising the steps of:
determining a location that is external to said ghost agent; and,
conveying said debugging messages to said determined location.

6. (Original) The method of claim 1, said debugging step further comprising the steps of:

identifying a parameter defined within said host; and,
determining a value for said parameter using said ghost agent.

7. (Original) The method of claim 6, said debugging step further comprising the steps of:

determining said value for said parameter before one of said replicated actions is executed; and,

determining a value for said parameter after said replicated action is executed.

8. (Original) The method of claim 1, said debugging step further comprising the steps of:

determining a processing break point for at least one of said replicated actions;
and,

halting execution of said replicated action at said processing break point.

9. (Original) The method of claim 8, said debugging step further comprising the step of determining at least one parameter value occurring at said processing break point.

10. (Original) The method of claim 1, said debugging step further comprising the steps of:

stepping the execution of at least a portion of said replicated actions; and,
for each execution step, determining at least one parameter value.

11. (Currently Amended) The method of claim 1, further comprising the steps of:

selecting a plurality of hosts; and,
for each selected host, repeating said associating step, ~~said replicating step,~~ and
said debugging step, and said moving step.

12. (Original) The method of claim 11, wherein said selected hosts are utilized within an application domain, said method further comprising the step of debugging said application domain.

13. (Currently Amended) The method of claim 12, wherein said selected hosts are disposed within different grids of said grid environment, said method further comprising the step of:

providing an interface for debugging said application domain, wherein said interface is configured to debug said selected hosts regardless of which grid said selected hosts are disposed within.

14. (Currently Amended) A computer-readable storage medium, comprising computer instructions for a debugger to debug software within a grid computing environment, said debugger comprising a debugger interface for debugging ~~a plurality of hosts, wherein said hosts are software objects for an application domain distributed within different grids of a grid environment~~[[;]].

wherein said software objects comprise a plurality of hosts and at least one ghost agent configured to be associated with a selected one of said hosts to replicate and record at least one action of said hosts,

wherein at least a portion of said hosts move from one grid within said grid environment to another grid, and wherein said ghost agents responsively move from said one grid to said another grid in response to movement of said associated host,

wherein said ghost agent is further configured to debug said associated host[[;]].
and, ~~an interface for debugging said application domain,~~

wherein said interface conveys debugging commands to said ghost agents and responsively receives debugging messages.

15. (Cancelled)

16. (Currently Amended) The computer-readable storage medium ~~debugger~~ of claim 14, said debugger further comprising:

a debugging data store configured to record said debugging messages from a plurality of said ghost agents.

17. (Currently Amended) The computer-readable storage medium ~~debugger~~ of claim 16, said debugger further comprising:

a debugging analyzer configured to analyze data within said debugging data store.

18. A computer-readable storage medium in a grid computing environment, comprising computer instructions for a [[A]] ghost agent associated with a host operating within said grid environment, said ghost agent comprising [[:]] a ghost controller for:

managing interactions between said ghost agent and said [[a]] grid environment,
~~wherein said ghost agent automatically moves from grid to grid within a grid environment to follow movements of a host;~~

~~means for debugging said host using said ghost agent;~~
accepting debugging commands from an external source,
responsive to said debugging commands, performing debugging functions, and,
~~a ghost log configured to record recording debugging messages in a ghost log of~~
said ghost agent,

wherein said ghost agent automatically moves from one grid to another grid within said grid computing environment in response to said associated host moving from said one grid to said another grid, and

wherein said ghost agent is configured to replicate and record at least on action of said associated host.

19. The ghost-agent computer-readable storage medium of claim 18, said ghost agent
further comprising an interface for associating said ghost agent with said host.

20. The ghost-agent computer-readable storage medium of claim 18, said ghost agent
further comprising a ghost identifier configured to identify said ghost agent to components within said grid environment.

21. The ~~ghost-agent~~ computer-readable storage medium of claim 18, further comprising computer instructions for:

~~means for~~ disassociating said ghost agent from said host; and,

~~means for~~ associating said ghost agent with a different host.

22. (Currently Amended) A ~~machine-readable~~ computer-readable storage medium having stored thereon, a computer program having a plurality of code sections, said code sections executable by a machine for causing the machine to perform the steps of:

identifying a host, wherein said host is a software object operating in a grid of a grid environment;

associating a ghost agent within said grid with said host, wherein said ghost agent is configured to replicate and record at least one action of said host within said grid;

~~replicating actions executed by said host for use by said ghost agent~~;

debugging said host based upon said replicated actions;

moving said host from one grid within said grid environment to another grid; and,

in response to said moving of said host, moving said ghost agent from said one grid to within said grid environment to said another grid.

23. (Cancelled)

24. (Currently Amended) The ~~machine-readable~~ computer-readable storage medium of claim 22, wherein said actions executed by said host are executed within a production environment, said method further comprising the step of preventing said replicated actions from operationally executing in said production environment.

25. (Currently Amended) The ~~machine-readable~~ computer-readable storage medium of claim 22, wherein said debugging step further comprises the steps of:

- receiving a debugging command;
- executing said debugging command; and
- responsively generating at least one debugging message.

26. (Currently Amended) The ~~machine-readable~~ computer-readable storage medium storage of claim 25, further comprising the steps of:

- determining a location that is external to said ghost agent; and,
- conveying said debugging messages to said determined location.

27. (Currently Amended) The ~~machine-readable~~ computer-readable storage medium of claim 22, said debugging step further comprising the steps of:

- identifying a parameter defined within said host; and,
- determining a value for said parameter using said ghost agent.

28. (Currently Amended) The ~~machine-readable~~ computer-readable storage medium of claim 27, said debugging step further comprising the steps of:

- determining said value for said parameter before one of said replicated actions is executed; and,
- determining a value for said parameter after said replicated action is executed.

29. (Currently Amended) The ~~machine-readable~~ computer-readable storage medium of claim 22, said debugging step further comprising the steps of:

determining a processing break point for at least one of said replicated actions;
and,

halting execution of said replicated action at said processing break point.

30. (Currently Amended) The ~~machine-readable~~ computer-readable storage medium of claim 29, said debugging step further comprising the step of determining at least one parameter value occurring at said processing break point.

31. (Currently Amended) The ~~machine-readable~~ computer-readable storage medium of claim 22, said debugging step further comprising the steps of:

stepping the execution of at least a portion of said replicated actions; and,
for each execution step, determining at least one parameter value.

32. (Currently Amended) The ~~machine-readable~~ computer-readable storage medium of claim 22, further comprising the steps of:

selecting a plurality of hosts; and,
for each selected host, repeating said associating step, ~~said replicating step, and~~
said debugging step, and said moving step.

33. (Currently Amended) The ~~machine-readable~~ computer-readable storage medium of claim 32 wherein said selected hosts are utilized within a common application domain, said method further comprising the step of debugging said application domain.

34. (Currently Amended) The ~~machine-readable~~ computer-readable storage medium of claim 33, wherein said selected hosts are disposed within different grids of said grid environment, said method further comprising the step of:

providing an interface for debugging said application domain, wherein said interface is configured to debug said selected hosts regardless of which grid said selected hosts are disposed within.

35. (Currently Amended) A system for debugging software objects within a grid environment comprising the steps of:

means for identifying a host, wherein said host is a software object;
means for associating a ghost agent with said host;
means for replicating and recording actions executed by said host for use by said ghost agent;
means for debugging said host based upon said replicated actions; and,
means for moving said ghost agent from one grid to within said grid environment to another grid in response to moving said host from said one grid to said another grid.